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A Brief Summary of Economic Conditions

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FARMERS INTEND to plant some 374 million acres this year, about 3½ percent more than the 361 million acres actually planted in 1943. Because a good many farmers are concerned about labor and machinery difficulties they plan to shift to crops for which they now have enough equipment and for which they have sufficient family labor. Favorable prices and record income for various crops last year also influenced farmers' intentions for this year. Principal acreage increases over last year are in prospect for vegetables, feed grains and spring wheat. * * * This past winter's vegetable crop, estimated at a record 1,349,000 tons, is 36 percent above 1943 production. Preliminary figures for spring season truck crops indicate a probable increase of 26 percent over 1943. * * * The large wheat supplies of the past 2 years no longer exist in the United States, a result of record high consumption. * * * Over-all civilian food supplies for 1944 now appear to differ little from last year. * * * New support prices for milk and dairy products raised the floor under returns to dairy producers while support prices for live hogs now cover only good and choice barrows and gilts weighing from 200 to 270 pounds.

Commodity Reviews

PLANTING INTENTIONS

FARMERS throughout the Nation plan this year to grow about a 3.6 percent larger acreage of crops than in 1943. Total acreage will probably be about 374,000,000 acres if present intentions fully materialize. This compares with 361,000,000 in 1943, an average of 354,000,000 acres during the previous 10 years, and the peak of 375,000,000 acres in 1932. Indications are that nearly all of the increases over plantings last year will be in grains, tobacco, and certain vegetables. No report on cotton acreage is made at this time. Decreases are indicated for most of the other crops.

Changes in prices (particularly for cash crops), unusual weather, or other causes may alter announced intentions before the actual planting time. In some areas, notably Kansas, Nebraska, and Colorado, spring plantings of wheat will depend to a large extent on how well the winter wheat survived the dry fall.

Intended acreage of feed grains and sorghum represents an increase of 4,000,000 acres, or 2.3 percent, over last year. Principal items are increases of 2.5 percent for corn, 3 percent for sorghums, and 8 percent for oats. Barley plantings will probably show a 13 percent decrease. Total acreage for the four crops is almost 7 percent above the 10-year average and higher than plantings in any past years except 1932 and 1933, but it is not large in proportion to the present livestock population.

Farmers from Minnesota and Iowa eastward to New York appear to be planning increased acreages of grain crops, chiefly by shifting from hay, pasture, and idle land.

Acreage seeded to spring wheat is expected to be 15 percent higher than last year. This, plus the nearly 25 percent increase in winter wheat seedings, indicates a return to approximately an average acreage seeded to

all wheat. A 17-percent increase in tobacco acreage appears probable; this is 12 percent above the 10-year average but still well under the acreage grown in some earlier years.

Principal acreage decreases now seem likely to be as follows: Flaxseed, 31 percent; peanuts, 10 percent; beans, peas, and potatoes, 7 to 8 percent; and tame hay, 2 percent. Soybean planting intentions reveal a 1 percent decrease, and acreage of cowpeas may be reduced 19 percent, but a good deal of the decrease in these crops and in peanuts is likely to be in the portion cut for hay, or left for livestock consumption. Acreage

1944 Planting Intentions, With Comparisons

Crop	Planted acreage			
	Average 1933-42	1943	1944 goal	1944 prospective
	Thou-sands	Thou-sands	Thou-sands	Thou-sands
Corn, all.....	96,276	97,136	100,253	99,583
Wheat, all.....	67,542	55,109	67,030	66,932
Winter.....	47,459	37,834	-----	47,127
All Spring.....	20,083	17,275	-----	19,805
Oats.....	41,059	42,858	39,558	46,170
Barley.....	14,401	17,329	17,372	15,074
Flaxseed.....	2,469	6,320	5,895	4,351
Rice.....	1,048	1,531	1,525	1,522
All sorghums ¹	15,942	17,496	-----	18,070
All sorghums(exclud-ing sirup).....	15,702	17,291	16,740	17,865
Potatoes.....	3,136	3,430	3,519	3,180
Sweetpotatoes.....	801	898	1,056	901
Tobacco.....	1,534	1,462	1,756	1,716
Dry beans.....	1,991	2,734	3,048	2,528
Dry peas.....	321	832	895	771
Soybeans, grown alone ²	8,016	14,762	-----	14,619
Soybeans for beans ³	3,848	10,820	13,654	11,096
Peanuts, grown alone ⁴	2,402	5,202	6,158	4,704
Peanuts, picked and threshed ⁵	1,842	3,949	4,964	3,955
Tame hay ⁶	57,049	61,016	62,838	59,910
Sugar beets.....	926	619	951	615

¹ BAE Winter Wheat and Rye Report of December 20, 1943.

² For all purposes.

³ All sorghum acreage (BAE Prospective Plantings Report) less 1943 acreage harvested for sirup by States.

⁴ Harvested acreage.

⁵ 1944 indicated solid equivalent acreage adjusted for the percentage harvested for beans.

⁶ Assuming the same acreage for other purposes by States, as estimated for 1942.

of peanuts picked or threshed may equal the large acreage threshed last year, while soybean acreage threshed may increase 2 or 3 percent.

Reports indicate that farmers plan to plant about the same acreages of rice, sugar beets, and sweet potatoes; probable changes will be less than 1 percent.

CIVILIAN FOOD SUPPLIES

LITTLE change from 1943 in overall food supplies available to civilians is expected for the year as a whole, although the situation during the next few months may be more favorable than at the same time in 1943. This limited improvement is due to larger-than-usual seasonal increases in eggs, citrus fruits, winter truck crops, meat, butter, and lard, together with large stocks of the three latter commodities. These increases, plus the quantities of home-preserved food on hand, are expected to make up for reduced civilian supplies of commercially canned fruits and vegetables during the next few months.

Liberal supplies of meat were available to civilians in the first quarter of 1944, but during the April-June period supplies will be reduced. However, the per capita rate of consumption in this period will still be higher than the average annual consumption in 1943.

Record supplies of fresh vegetables have created a favorable supply situation that is likely to continue throughout the spring.

A 15 percent reduction from the 1943-44 level of civilian consumption of canned vegetables (10 percent below the 1935-39 average) is anticipated as a result of a WFA order reserving a substantial portion of the 1944 pack for noncivilian requirements.

Egg production has shown more than the usual seasonal increase, and civilian egg supplies have increased commensurately. However, the seasonal decline, together with more intensive drying and storing operations,

will reduce civilian supplies somewhat during the second quarter even though they are sufficient to meet demand at or below ceiling prices.

Poultry supplies, except for eggs, have not kept up with civilian demand in recent weeks because farm marketings are lower than the peak achieved last fall, and because of continued restrictions on the sale of storage poultry.

On the basis of allocations announced by the War Food Administration, 1944 per capita civilian consumption of all dairy products will be slightly under that of 1943. During the first quarter of this year, the seasonal upturn in butter production went to civilians, with noncivilian requirements being filled from reserve stocks. Margarine and lard supplies have been relatively large and in keeping with civilian demand.

FARM LABOR

ABOUT 14½ million people altogether worked at one time or another on farms last year, the total time spent at farm work being some 20 to 25 billion hours. Because of the seasonal nature of farm work and the large turn-over of persons doing small amounts of farm work, the 14½ million figure is naturally greater than the number at work at any given time in 1943—even during the peak.

Farm residents made up 78 percent of this working force and contributed 88 percent of the total time put into agricultural work in 1943. Nonfarm residents, both men and women, accounted for 12 percent of the total hours worked in the May-October period and represented 21 percent of the farm working force in that peak period.

Hired workers are working about the same number of hours per day as in 1940, but most operators are working about an hour longer per day than they did four years ago. Because the bulk of agricultural work

is performed by farm operators and regular hired workers, more than 65 percent of all the work in 1943 was done by persons who put in 2,500 hours or more at farm labor during the year, often considered a full year's work. Men living and working on farms averaged 60 hours worked a week in 1943 and 66 hours during the peak six months of May through October. Nonfarm men averaged 50 hours per week for the entire year, but put in only 24 work weeks on the average. Farm women averaged 44 hours a week and about 116 ten-hour days while nonfarm women averaged only 67 ten-hour days of work for the entire year.

MARKETING AND TRANSPORTATION

DIFFICULTIES in railroad food transportation focus largely on the manpower question rather than the problem of equipment. The outlook for materials and new equipment this year is considerably more favorable than in the past 2 years, although the refrigerator-car situation is tight and box cars for grain have been short. A larger number of locomotives will be produced, and the number of new freight cars will be double that of 1943. Probable increases in traffic this year are estimated all the way from 2 to 7 percent, with most of the increase likely to occur during the first 6 months of the year. A drive has started to secure more rail workers to take care of accelerated traffic, and efficiency procedures have been instituted to save manpower.

Cold-storage facilities are still strained. Freezer space occupancy has been around 90 percent during the past several months as compared with 73 percent a year ago. Steps are being taken to reduce storage holdings and shorten the length of time various commodities remain in storage.

WHEAT

SURPLUS stocks of wheat are now virtually nonexistent in the United States owing to a record high use of wheat during the past 2 years. Next July 1 is expected to bring a 50 percent reduction in the 600-million bushel carry-over of 1942 and 1943. Big increases in consumption have resulted principally from the use of wheat for feed and for the manufacture of industrial alcohol, which uses have necessitated large imports. While it is estimated that in the 1943-44 year 540 million bushels will be used for food and 80 million for seed, between 450 and 475 million will be used for feed and about 100 million for alcohol. Exports may amount to between 50 and 60 million bushels. The carry-over last July was 616 million bushels, the crop totalled 836 million bushels, and it is expected that imports will total about 125 million bushels.

The prospective planted acreage of spring wheat is 19.8 million acres, 15 percent above last year and about equal to the 1933-42 average. Such an acreage, together with the winter wheat seedings of 47.1 million acres reported in December, makes a total of 66.9 million, which is 21 percent above last year, the largest since 1938, and approximates the goal.

Wheat yields, both winter and spring, are dependent on subsequent weather conditions. Assuming spring wheat yields per planted acre equal to those of the post-drought years 1937-41, and including the estimate made in March for winter wheat, the indicated 1944 all-wheat production would be approximately 825 million bushels. Winter precipitation has materially improved yield prospects, and acreage losses are now less than were expected last December. Subsoil moisture reserves in some areas of the country, however, are insufficient to insure a good crop unless more than usual precipitation occurs between March and harvest time.

A crop of 750 million bushels would provide only for domestic food and seed requirements, normal feeding, and moderate exports. Continuation of the use of wheat for above-average feeding, for alcohol production, and for large lend-lease commitments would necessitate the continuation of large imports, if our carry-over July 1, 1945 is not to shrink below a reasonable reserve level.

DAIRY PRODUCTS

PRIce supports for 1944 milk and dairy products announced by the War Food Administration on March 4 assured returns to producers at least 30 cents per hundredweight higher for milk and 4 cents per pound higher for butterfat than guaranteed by support prices previously in effect. March and April payments for butterfat are 8 cents a pound, while whole milk rates range from 50 to 80 cents per hundredweight, depending on geographical location. Tentative plans have been made for a seasonal reduction in rates from May through August.

A March 1 limitation order, restricting domestic sales of dried milk products, brings nearly all important dairy products under control. Bulk condensed whole and skim milk, and dried buttermilk and whey are now unregulated.

The early spring weeks saw about the usual seasonal increase in milk production. Estimates indicate that February production totaled 8.6 billion pounds in 29 days, or 2 percent higher, in a 3 percent longer month, than a year earlier. On March 1 production per cow averaged 13.71 pounds, 2 percent lower than in March 1943 but 7 percent higher than the 1933-42 average of 12.83 pounds on that date. Among favorable dairy developments are a 2 percent larger number of cows being milked, plenty of rain for good pasture growth, and increased dairy production payments.

Butter markets continued firm and

prices were unchanged. In March civilian supplies were generally equal to the demand and there was some accumulation of wholesale stocks. January butter production was the lowest in a decade—approximately 105,400,000 pounds, 14 percent lower than the 123,075,000 pounds output a year ago, and 13 percent lower than the 10-year (1933-42) average.

Production of American cheese in January was estimated at 44,500,000 pounds, 3 percent less than a year earlier but 38 percent over the 10-year (1933-42) average. A large unsatisfied civilian demand continued at current prices and ration point values. Production of other types of cheese revealed mixed trends.

LIVESTOCK

THE SMALLEST number of lambs in 8 years, 6 percent fewer than in 1943, will be raised this year in the principal early lamb producing States. This is due to the smaller number of breeding ewes in these States, because the number of lambs per 100 ewes was higher than a year ago. Marketings of early lambs before July 1 will probably show a reduction, but this may be offset by larger marketings of grass-fat yearlings and wethers from Texas.

Meat output in the April-September period is expected to be greater than for the same period last year—more pork, beef, and veal—less lamb and mutton. However, demand for meat will continue to exceed the supply.

As of April 15, support prices on live hogs apply only to good and choice barrows and gilts weighing from 200 to 270 pounds. The War Food Administration on that date terminated the temporary emergency support program for hogs weighing from 270 to 330 pounds.

April hog slaughter may be smaller than the very large monthly slaughter during January-March. After the seasonal decline in April marketings of hogs will probably increase again in May and June, at which time hogs

Index Numbers of Prices Received and Paid by Farmers

[1910-14=100]

Year and month	Prices received	Prices paid, interest and taxes	Parity ratio ¹
1943			
January.....	181	157	115
February.....	184	159	116
March.....	192	160	120
April.....	197	162	122
May.....	194	163	119
June.....	195	164	119
July.....	193	165	117
August.....	192	165	116
September.....	193	165	117
October.....	194	166	117
November.....	194	167	116
December.....	196	169	116
1944			
January.....	196	169	116
February.....	195	170	115
March.....	196	171	115

¹ Ratio of prices received to prices paid, interest and taxes.

from the record size 1943 fall pig crop will be marketed in the greatest volume.

Cattle slaughter in March and April is expected to be about as large as in February. Calf slaughter may increase slightly in March and April from that of February.

POULTRY AND EGGS

AN INCREASE in farm egg production of 16 percent over last year occurred during the first 2 months of 1944. A higher average rate of production per bird, stimulated by unusually mild weather, was largely responsible for the increase. In addition to meeting the large civilian demand for eggs, the increased output is also moving into storage and into dried egg production.

The prospective demand for eggs in 1944 as a whole for all purposes is greater than in 1943. Nevertheless, by the middle of March wholesale egg prices had declined considerably below those of a year earlier.

Total chick demand continues below that of a year ago.

A probable 2 percent increase in this year's turkey crop over 1943 is evidenced by the turkey growers' announced plan to raise 33,767,000 turkeys in 1944, or about the same as the record 1940 production.

The 8 percent increase in breeder hens on January 1, 1944, is likely to obviate any difficulties in the way of achieving the 2 percent production increase and preclude the necessity of late hatchings, provided enough high protein feeds are available and poult prices do not rise too much.

Turkey production in 1943 totalled 32,565,000 birds, not much change from 1942 but 22 percent above the 10-year (1932-41) average, and 7 percent above the 5-year (1937-41) average. Six percent fewer turkeys were sold from farms in 1943 than in 1942—some 30,569,000 birds. A record average price was received for live turkeys—32.6 cents per pound, or 19 percent more than in 1942.

Another record was achieved last year when \$160,938,000 in cash income resulted from turkey sales. This was 11 percent above the 1942 turkey income and about 2½ times the 10-year average.

TRUCK CROPS

ESTIMATED tonnage of this year's winter vegetable crops is the largest on record—1,394,000 tons, 36 percent greater than 1943 production, 52 percent above the 10-year (1933-42) average. The 1944 production of individual crops expressed as a percentage of the 1943 production will probably shape up about as follows: tomatoes, 197; cabbage, 180; green peas, 164; beets, 138; celery, 135; escarole, 131; spinach, 130; cauliflower, 128; snap beans, 122; lettuce, 116; kale, 112; green peppers, 110; lima beans, 101; carrots, 100; artichokes, 92; shallots, 83; eggplant, 71.

Preliminary estimates of some spring season truck crops indicate about a 26 percent increase in acreage over that of 1943 and a 14 percent increase

above the 10-year (1933-42) average. Especially large increases in spring onions are likely. Also, farmers in early and late summer States have reported intentions to plant approximately 80,140 acres of onions, about 19,900 acres or 33 percent more than harvested last year. Indications are too that watermelon growers in the late spring and early summer states will plant 193,850 acres this year, an increase of 55 percent over last year when 124,800 acres were harvested in these areas.

POTATOES

RECORD large plantings of commercial early Irish potatoes are in prospect—396,700 acres, 6 percent higher than last year's harvested acreage, and 26 percent above the 10-year (1933-42) average. Production from this acreage with average yields would total 63.4 million bushels, 1.6 million more than last season.

Present plans of potato growers point to a total 1944 potato acreage of 3,180,000 acres, a 7.3-percent decrease from 1943, but 14 percent above 1942. Anticipated decreases are somewhat general among the late and intermediate producing areas, with 33 of the 37 potato-producing States showing smaller acreages for 1944 than were planted in 1943.

FRUIT

THE 1943-44 crop of citrus fruits, which provide the main source of fresh fruit during early spring, is now indicated to be 7 percent larger than the previous record large crop of 1942-43. Most of the increase consists of early and midseason oranges, including Navel oranges, the harvest of which is now well advanced. The marketing of these oranges coincides with decreased marketings of apples and pears from cold storage, the stocks

Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and State]

	5-year average		March 1943	February 1944	March 1944	Parity price, March 1944
	August 1909-July 1914	January 1935-De- cember 1939				
Wheat (bushels).....dollars..	0.884	0.837	1.227	1.46	1.46	1.51
Corn (bushel).....do.....	.642	.691	.948	1.13	1.14	1.10
Oats (bushel).....do.....	.399	.340	.584	.786	.793	.682
Rice (bushel).....do.....	.813	.742	1.504	1.92	1.92	1.39
Cotton (pound).....cents..	12.4	10.29	19.91	19.93	19.97	21.20
Potatoes (bushel).....dollars..	.697	.717	1.447	1.39	1.37	1.23
Hay (ton).....do.....	11.87	8.87	12.28	15.90	16.00	20.30
Soybeans (bushel).....do.....	1.96	.954	1.65	1.85	1.89	1.64
Peanuts (pound).....cents..	4.8	3.55	6.83	7.38	7.52	8.21
Apples (bushel).....dollars..	.96	.90	1.85	2.94	3.07	1.64
Oranges, on tree, per box.....do.....	1.81	1.11	1.96	1.51	1.95	1.99
Hogs (hundredweight).....do.....	7.27	8.38	14.67	12.90	13.10	12.40
Beef cattle (hundredweight).....do.....	5.42	6.56	12.76	11.80	12.00	9.27
Veal calves (hundredweight).....do.....	6.75	7.80	14.40	13.10	13.30	11.50
Lambs (hundredweight).....do.....	5.88	7.79	13.97	13.20	13.40	10.10
Butterfat (pound) ¹.....cents..	26.3	29.1	50.5	50.9	51.1	45.7
Milk, wholesale (100 pounds) ².....dollars..	1.60	1.81	3.07	3.33	3.27	2.70
Chickens (pound).....cents..	11.4	14.9	23.5	23.7	23.8	19.5
Eggs (dozen).....do.....	21.5	21.7	34.0	31.9	30.1	30.2
Wool (pound).....do.....	18.3	23.8	41.7	39.5	39.0	31.3
Tobacco:						
Fire-cured types 21-24 (pound).....do.....	13.6		16.1	22.9	21.0	15.0

¹ Revised.

² Comparable base price, August 1909-July 1914.

³ Comparable price computed under sec. 3 (b) Price Control Act.

⁴ Comparable base price, August 1919-July 1929.

⁵ Does not include dairy feed payments since February 1944.

⁶ Adjusted for seasonality.

⁷ Preliminary.

⁸ Base price crop years 1919-23.

of which were 36 percent and 61 percent less, respectively, on March 1 1944, than a year earlier.

The 1943-44 crop of all oranges and tangerines is indicated at 101 million boxes, which, if realized, will set a new record and be 13 percent larger than the previous record large crop of 1942-43.

The indicated production of grapefruit is nearly as large this season as last, 49.6 million boxes compared with 50.5 million. The California lemon crop of 14.3 million boxes is 4 percent smaller this season than last.

WOOL AND MOHAIR

TOTAL wool production in 1943 was 447,978,000 pounds, of which 384,378,000 pounds were shorn wool and 63,600,000 pounds were pulled wool. Shorn wool production declined 8 million pounds, or 2 percent, below the 1942 record and about 6 million pounds below 1941, but was the third largest on record. A higher market price not only offset the decline in production but resulted in a record

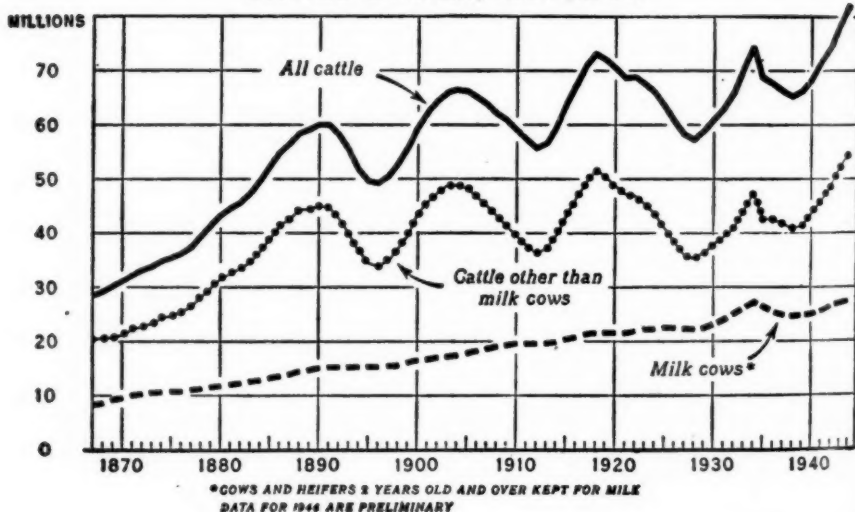
income. In 1943 the price averaged 41.6 cents per pound, an increase of 1.5 cents over 1942, and the highest since 1920. The 1943 cash income from shorn wool totalled \$159,953,000, exceeding the 1942 total by \$2,718,000.

Pulled wool production last year—63,600,000 pounds—was the third smallest since 1930, and 3.1 million pounds smaller than in 1942, despite the fact that inspected slaughter of sheep and lambs in 1943 was the largest on record.

A 7 percent reduction in sheep numbers in the last calendar year indicates a reduction in the quantity of wool for sale in 1944. It is expected the Government wool purchase program will be continued this year, and that farm prices for wool will be quite similar to those of 1943.

Mohair production in 1943 was the smallest since 1939—20,196,000 pounds, 2½ percent lower than in 1942, but approximately 14 percent above the 10-year (1932-41) average.

**ALL CATTLE: NUMBER ON FARMS JANUARY 1,
UNITED STATES, 1867-1944**



U. S. DEPARTMENT OF AGRICULTURE

REG. 34190

BUREAU OF AGRICULTURAL ECONOMICS

Fertilizer Research and Crop Production

NEVER before have fertilizers been as important to American farmers and to the entire Nation as they are this year. With crop yield prospects seemingly less favorable than in 1942 or 1943, yet with needs for food and fiber production as great or greater, the Nation more than ever requires maximum production on every acre. In this situation it is indeed fortunate that there will be available this year the largest supply of fertilizers in the Nation's history, even though wartime restrictions will limit supplies available to individual farmers.

Fertilizers Economize Land Use

The first great benefit from fertilizer use is, of course, economy in land use, insuring greater yields from whatever land areas are available. The fact that the use of fertilizer increases production per acre relatively much more than the additional labor required to apply it, indicates also that such use is labor-saving. In addition, however, to the benefits derived from larger yields, better land use, and increased labor efficiency, the improved quality of crops means much to the farmer in obtaining top prices, and it means much to the Nation in many ways.

These benefits of fertilizers are now generally understood by American farmers, in fact to such an extent that the use of fertilizers will account for a large share of the total food production in 1944. The monetary profits from the added production will, of course, go to the farmers who make use of the fertilizers. These farmers are probably the ones who can best understand the economic consequences of scientific work with fertilizers, yet this understanding might well be shared by even the general public, so important it is to the entire Nation.

Contrasting the fertilizer supply situation of World War I with that of the present war is one way to illustrate

the results obtained from fertilizer research, which has been carried on through the combined efforts of Federal and State agencies and private industry.

The contrast shows a change from entire dependency on Germany for potash, for example, to achievement of independence from outside sources in this period through the production of adequate amounts from mines in New Mexico, Searles Lake, California, and other sources. In 1918, of the 53,000 tons of potash produced in the United States, 39,000 tons were obtained from lake brines, and the remainder came from any kind of source available, such as blast furnace dust, cement dust, alunite, kelp, tobacco waste, and ashes. In 1944 the entire consumption will be from a domestic production more than 10 times as great as that in 1918.

A similar tale can be told of nitrogen supplies. The principal sources in 1918 were Chilean sodium nitrate, constituting 29 percent of the total; ammonium sulphate, principally domestic, 16 percent; cyanamid, nitrate of lime, and ammonium phosphate, about 1 percent; and a remaining 54 percent composed mainly of 25 kinds of organic materials. Today synthetic nitrogen compounds obtained from fixation of atmospheric nitrogen are a large portion of the fertilizer nitrogen and assure sufficiency in peace or war.

Better Forms Sought

Research, however, has not only helped assure a supply of fertilizers. It has also resulted in the development of better fertilizers and more economical fertilizer practices. A search is constantly being made for new forms. Studies are being made to determine their reactions in mixtures and in the soil, to decrease the cost of production, to determine their fertilizer value by vegetative tests, and to increase their utilization by plants.

An outstanding recent development

in fertilizer preparations is the ammoniation of superphosphate. Research had earlier shown the practicability of treating superphosphate with ammonia or its compounds, but these possibilities could not be realized until abundant supplies of low-cost ammonia became available. Synthetic nitrogen fixation plants have now made anhydrous ammonia or ammonia solutions readily available, and these solutions can be economically shipped in tank cars for use at fertilizer manufacturing plants. The earlier research on ammoniation of superphosphate is now paying dividends. By using ammonia-water solutions of nitrogen compounds, such as urea and ammonium nitrate (both synthetic products), it is possible to increase the nitrogen content of mixed fertilizers and insure to farmers the benefit derived from the use of the low-cost nitrogen in synthetic ammonia. Extension of this use with the large quantities of ammonium nitrate from munitions plants promises greater nitrogen use in fertilizers, larger economies in fertilizer use, and hence in crop production.

Ammonium Nitrate Granulated

A more recent achievement of fertilizer research has been the perfection of a product so important that it will this year make up a considerable fraction of our fertilizer nitrogen. This product is granular ammonium nitrate. Ammonium nitrate has become available in quantities because of the large factory capacity developed to produce it for war explosives. As produced at ordnance plants for explosive purposes it is, however, unsuitable for fertilizer use. Intensive investigations were, therefore, carried on within the last year to overcome its objectionable properties. These were principally its tendencies to cake very hard during shipment or in storage and to absorb moisture rapidly, even to liquefaction under conditions of high humidity and temperature. The result of these investigations has

been the production of ammonium nitrate as a grained or pelleted material treated with a small percentage of coating substances. In these forms the objectionable properties are modified to furnish a satisfactory material for use both in fertilizer mixtures and for separate applications. During the 1944 fertilizer year it is estimated that about 350,000 tons of ammonium nitrate containing 32.5 percent nitrogen will be used, compared with 43,000 tons in 1942. Ammonium sulphate has 20.5 percent nitrogen and sodium nitrate 16 percent.

Granulation of superphosphate and mixed fertilizers is also now carried out on an extensive commercial scale. Mixed fertilizers are made from a variety of materials of different densities and particle size or one kind of fertilizer material may contain a number of particle sizes. With such materials there are increased tendencies to cake in bags or storage, or for the particles of segregate, causing uneven distribution in the field. Granulation or graining into more uniform particles has been developed to overcome the undesirable tendencies and to insure uniform distribution in application. This method reduces labor in handling, increases the efficiency of the fertilizer used, eliminates much filler used as conditioner in mixtures, and results in economies in use and better utilization by plants.

Mixtures More Concentrated

Technological research has furthermore been largely instrumental in transforming fertilizer manufacture into a chemical industry. Following the established production of synthetic nitrogen materials, of 20 percent superphosphate and 42 to 45 percent double superphosphates, and of 50 or 60 percent potash salts, the manufacture of more concentrated mixed fertilizers is not an unusual practice now. Formerly the low plant-food content of materials made the formulation of high analysis fertilizer mixtures difficult. Increasing the con-

centration results in less filler, fewer bags, lower transportation and handling costs, as well as lower manufacturing costs per ton of fertilizer. The advantages of higher analysis fertilizer mixtures became especially important under wartime conditions. How great these advantages are is shown by the estimate that a saving of \$1,000,000 may be realized in transportation and handling charges by preparing double strength mixtures and eliminating filler. These developments have made possible the wartime restrictions placing a floor under plant-food content in fertilizers, and these restrictions have not only saved cargo and shipping space but have also accomplished much toward enforcing these savings for the farmer.

Application Methods Improved

Research has done much to improve application methods as well as the manufacture of fertilizers. Broadcasting fertilizers was the first method used for their application. This method is still employed on areas where broadcast seeding is employed but it has been shown to be wasteful and inefficient with row crops. Research has shown that the movement of certain plant foods in the soil is limited to relatively short distances from their placement in the soil; for example, available phosphorus reacts with soil colloids to become unavailable and its movement in the soil is very restricted. By placing fertilizers in a position readily accessible to plant roots, better utilization of the plant food results, as shown by higher yields of crops with such placement.

Special distributing machines have been developed and tested in field

experiments with potatoes, cotton, corn, beans, sugar beets, tobacco, and other crops. Better utilization of plant food with band placement is well substantiated, and the results point out this method as achieving large economies in the more efficient use of plant food.

The awakening to the importance of fertilizers and the development of resources to an unprecedented level point to the possibilities of even greater use, dependent of course on available supplies. There should, for example, be a greater use of nitrogen on large areas of staple crops, now little or insufficiently fertilized, such as corn; more especially on small grains; and also on nonleguminous cover crops, with return of crop residues to cultivated areas. There is also need for a greater use of nitrogen, phosphate, and potash on forage crops and pastures to increase meat and milk production.

Post-War Possibilities Favorable

An expansion of fertilizer production may be expected in the post-war period. Progress made in fertilizer research has introduced new materials, methods, and practices in soil treatment and crop production that have meant millions of dollars annually to farmers both in war and in peace. With the better opportunities for efficient utilization of improved fertilizers in the post-war period, the benefits to farmers from the accumulated results of research should be much greater than have ever been experienced in the past.

R. O. E. DAVIS, *Bureau of
Plant Industry, Soils and
Agricultural Engineering, ARA*

INDEX—A limited number of copies of the index of the articles appearing in the *Agricultural Situation* during 1943 are available from the Bureau of Agricultural Economics, Washington 25, D. C.

Farm-Mortgage Debt Continues to Decline

THE implications of declining mortgage debts, on the one hand, and rising land values, on the other, are discussed in this article and the following one. The long-run future security of thousands of farm families may hinge on the interaction of these two trends: mortgage-debt and land value trends. Ed.

CONTRARY to fears expressed at the outbreak of World War II, total farm-mortgage debt has not gone up along with the rise in farm income and land values; instead it has continued to decline. On the basis of recently revised annual estimates of outstanding farm-mortgage debt for the period 1930-43, the total at the beginning of 1943 was \$6,117,-168,000. Preliminary information indicates that by the beginning of 1944 net liquidations had brought the total down to about \$5,650,000,000. This is a reduction of about 7.6 percent in 1943 as compared with 5.7 percent in 1942 and less than 1 percent in each of the 2 preceding years. In the 2 years since Pearl Harbor the farm-mortgage debt has been reduced about 13 percent and now is only slightly more than one-half the peak debt of 1923. See table 1.

Few Distress Transfers

Although the sharp reduction of farm-mortgage debt in the 2 years, 1942 and 1943, is almost as large a percentage decline as that of 1932 and 1933, the significance of the reductions in these two periods is quite different. In the earlier period much of the debt reduction resulted from distress farm transfers; in the later period debt has been liquidated during high income levels. In the year ended March 1943, distress transfers of farms amounted to only 6.6 per 1,000 of all farms, whereas for the comparable period a

decade earlier such transfers amounted to 54.1 farms per 1,000 of all farms.

At the beginning of 1940 about 39 percent of all farms were mortgaged. These mortgaged farms accounted for 43 percent of all land in farms and about 47 percent of the value of all farms. The mortgage debt on these farms was equal to 41.5 percent of their value and 19.6 percent of the value of all farms (mortgaged and free of debt). See table 2.

Changes in the number of farms under mortgage are the net result of several opposing tendencies that are difficult to evaluate. Many farms doubtless have been cleared of mortgage debt since 1940 through the combined effects of completion of principal payments, purchases of mortgaged farms by people able to pay cash for them, and foreclosures and assignments. But many free-of-debt farms, including those owned by lending institutions, have been sold to buyers who have borrowed a part of the purchase price; and there are always some owners of free-of-debt farms who find it necessary to borrow on mortgage security for various purposes. It seems very probable that the heavy mortgage debt reduction in 1942 and 1943 resulted in some net reduction in the number of mortgaged farms.

Table 1.—Revised farm-mortgage debt estimates, United States, January 1, 1930-43

Year	Previous estimates	Revised estimates	Percentage change
	1,000 dollars	1,000 dollars	Percent
1930.....	9,630,768	9,630,768	0.0
1931.....	9,458,281	9,398,063	— .6
1932.....	9,214,004	9,093,983	— 1.3
1933.....	8,638,383	8,466,418	— 2.0
1934.....	7,887,119	7,685,293	— 2.6
1935.....	7,785,971	7,584,459	— 2.6
1936.....	7,638,867	7,422,701	— 2.8
1937.....	7,389,797	7,153,963	— 3.2
1938.....	7,214,138	6,954,884	— 3.6
1939.....	7,070,896	6,779,318	— 4.1
1940.....	6,909,794	6,586,399	— 4.7
1941.....	6,824,126	6,534,487	— 4.2
1942.....	6,713,835	6,483,847	— 3.4
1943.....	6,350,263	6,117,168	— 3.7

Table 2.—Selected Farm-Mortgage Ratios as of January 1, 1940, and Percentage Change in Outstanding Farm-Mortgage Debt, January 1, 1940, to January 1, 1943

Geographic division	Percentage of all farms under mortgage ¹	Percentage of all farm land in mortgaged farms ²	Value of mortgaged farms as a percentage of value of all farms ³	Ratio of mortgage debt to the value of all mortgaged farms ³	Ratio of mortgage debt to the value of all farms (mortgaged and free of debt) ³	Percentage change in farm-mortgage debt, January 1, 1940 to 1943 ³
	Percent	Percent	Percent	Percent	Percent	Percent
New England.....	46.5	47.7	52.7	38.5	20.3	-7.6
Middle Atlantic.....	40.1	42.7	45.0	40.5	18.3	-8.0
East North Central.....	42.8	44.2	45.7	42.6	19.4	-7.3
West North Central.....	45.3	44.0	49.7	49.8	24.7	-6.0
South Atlantic.....	29.2	35.0	36.7	34.9	12.8	-1.6
East South Central.....	36.6	41.1	43.9	37.6	16.5	-2.7
West South Central.....	34.3	49.6	48.2	35.0	16.8	-5.6
Mountain.....	42.9	37.0	53.0	37.9	20.1	-18.1
Pacific.....	48.0	49.1	52.0	35.9	18.7	-11.9
United States.....	38.8	43.1	47.2	41.5	19.6	-7.1

¹ "Farm Mortgage Indebtedness in the United States—Release No. 1—Number of Mortgaged Farms," Cooperative release by BAE and Bureau of the Census, June 1943.

² "Farm Mortgage Indebtedness in the United States—Release No. 2—Amount of Farm Mortgage Debt," Cooperative release by BAE and Bureau of the Census, March 1944.

³ "Revised Annual Estimates of Farm Mortgage Debt by States, 1930-43," BAE, April 1944.

The developments of the last few years have resulted in a substantial reduction in the over-all ratio of total mortgage debt to the value of all mortgaged farms. Land values have risen and mortgage debt has fallen. New mortgages arising out of farm transfers tend to bear a higher relationship to current value than those already in effect before the rise of land values. Even though current surveys do not indicate any pronounced tendency for those buying farms on credit to borrow increased proportions of the purchase price, the mere fact that voluntary farm transfers have increased would suggest that a substantial number of the present mortgaged farms have debts against them characteristic of new farm purchases.

1 to 8 Debt Ratio

At the beginning of the year 1943 mortgage debt was equal to 15.3 percent of the value of all farms. With the substantial rise in land values and the sharp reduction of mortgage debt during 1943 it seems probable that at the beginning of 1944 total mortgage debt was equal to around one-eighth of the current value of all farms. It is necessary to go back to the begin-

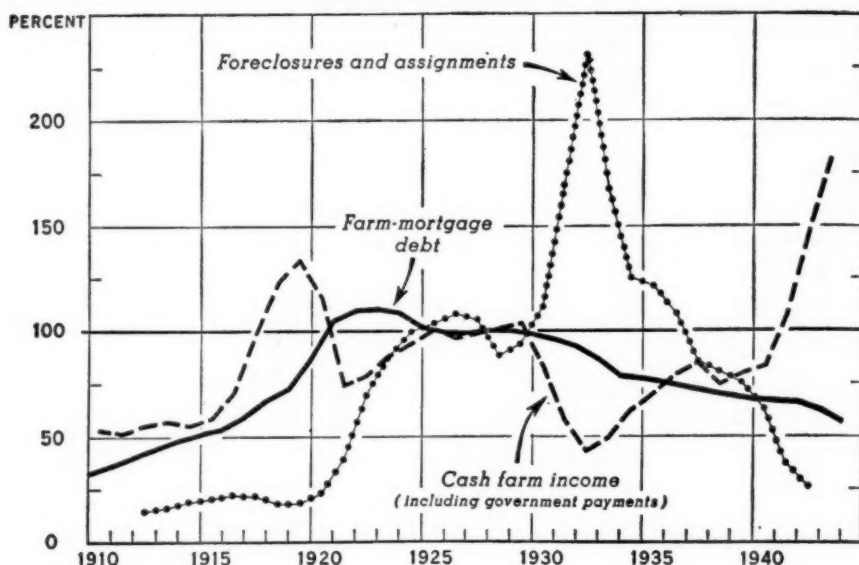
ning of 1920 to find a debt-to-value ratio as low as 1 to 8.

Even though farm owners as a group now have a low total mortgage debt, it is incorrect to assume there will be no mortgage-debt difficulties for some farmers during post-war years. Two questions are of special importance in interpreting the significance of the current mortgage-debt situation of farm owners: (1) How many of the present farm owners would likely be in mortgage-debt difficulties within a short time if we should suddenly be plunged into a prolonged period of reduced farm incomes? (2) What are the prospects that the mortgage-debt situation would change rather quickly as a result of additional borrowing if relatively favorable farm prices and incomes should continue for several years after the end of the war?

If reduced farm incomes prevailed, it seems reasonable to expect that out of the increased volume of farm transfers in recent years there might well emerge a substantial number of farm-debt situations which would cause both borrowers and lenders trouble. Even if every effort were made by borrowers to reduce debts out of income, there probably would still be

FARM MORTGAGE DEBT, 1910-44, CASH FARM INCOME, 1910-43, AND FORECLOSURES AND ASSIGNMENTS, 1912-42

INDEX NUMBERS (1925-29=100)



U. S. DEPARTMENT OF AGRICULTURE

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some farmers with excessive debts. The principal significance of the present low mortgage debt, however, lies in the probability that among those having mortgage debts during a period of reduced incomes there would be fewer cases of extreme debt distress than if heavy borrowing on mortgage security had been widespread in the immediately preceding period.

Disruptive Effect Lessened

With a substantial backlog of farm owners who are either free of debt or in a relatively safe mortgage-debt situation at the beginning of a period of reduced income, the financial distress of those caught with heavy debts would not have so great a cumulative disruptive effect on still other farm enterprises or on others in the economy whose financial situation is dependent on the financial strength of agriculture. The financial hardships for those caught with heavy debts doubtless would be severe, but most farmers might well be able to tide over a low income period without loss of farms.

With debt distress confined to a few cases, the agricultural economy as a whole might still weather even a prolonged period of low income without giving rise to a farm-debt problem of national importance.

If Favorable Prices Prevailed

A continuation of favorable farm prices and income raises a different set of issues. Mortgage debt can be built up very rapidly, as is evidenced by the large increases in the years immediately following World War I. Over 3 billion dollars of mortgage debt was added to the total in 3 years, 1919-21. If farm real estate values should be maintained or continue to rise for a number of years, a large number of present farm owners would have sufficient equity in their farms to provide the security to finance postponed farm and home improvements, purchases of new farm and home equipment, and acquirement of additional land for themselves or their children. Loans to returning soldiers to buy farms, as well as to other rural

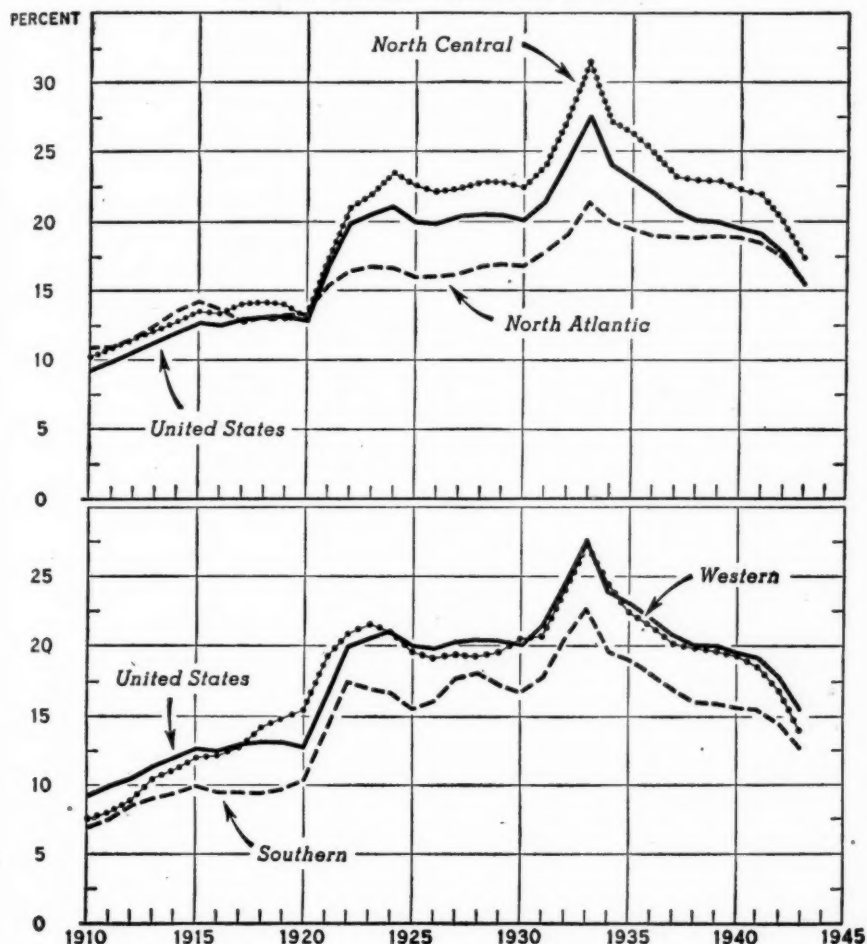
people no longer needed in war industries, could well result in substantial increases in mortgage debt. At that time many older farmers might decide to retire and convert their farm equity into liquid assets. A new generation of farm owners might then take on considerable mortgage debt in a short period.

Such potential developments in the mortgage-credit field could well change our present mortgage-debt situation rather quickly into one not unlike that prevailing before the collapse in the early 1920's. Whether such a situa-

tion eventually would prove disastrous, as in the period after 1920, would depend in no small measure on the effectiveness of post-war economic policies in maintaining a flow of farm income adequate to carry the mortgage debt without undue hardship.

The current favorable mortgage-debt situation thus does not guarantee that some of the present farm owners will not be caught with heavy debts at a later date, nor that subsequent developments will not quickly alter the mortgage situation. But it does give agriculture as a whole a chance to

RATIO OF FARM-MORTGAGE DEBT TO VALUE OF ALL FARM REAL ESTATE, BY SELECTED GEOGRAPHIC AREAS, UNITED STATES, 1910-43



be in a somewhat more flexible financial position in the post-war readjustment period than after World War I.

Of great importance for the post-war financial stability of farm enterprises are the potential mortgage-debt developments ahead in the next few years; but the significance of these

developments will depend also on the effectiveness of the more general economic policies of the post-war period in facilitating an orderly transition of the entire economy from war to peace.

DONALD C. HORTON and
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Bureau of Agricultural Economics

Are Farm Land Values Inflated?

THE UPWARD surge in farm real estate values continues, with average per acre values rising as rapidly as during the last war. A record volume of sales has accompanied these accelerated value increases, and a significant number of farms are being resold at a substantial profit after relatively short periods of ownership.

Briefly, average per acre values rose 15 percent during the year ended March 1, 1944, with most of the rise taking place in the last 4 months. Values for the United States are now 38 percent above the 1935-39 average and 14 percent above 1912-14. Outside of 1919-20, the rate of increase during the past year was higher than for any previous year for which data are available. The increase during the last 4 months was the highest of record, exceeding by one-fifth the average monthly rate for the 1919-20 boom year. During 1943 average values increased 10 percent or more in almost three-fourths of the States and 15 percent or more in over two-fifths of them. In 10 States the advances equaled or exceeded the record increases of 1919-20.

Land Values Up a Third

Values have increased slightly more than one-third in the last 3 years and are now almost two-fifths above the pre-war II average. In the 3-year period 1916-19, values rose somewhat under one-third and by 1919 were also two-fifths above the pre-war I average.

Whether or not farm values are considered to be following an inflationary path, or to have reached an inflationary stage, and both combined with the degree of apprehension over future consequences, depends largely upon variations in views with respect to two types of considerations: (1) The emphasis placed upon particular characteristics of developments in the farm land market and types of evidence considered significant; and (2) expectations with respect to farm commodity price levels in the longer post-war period.

Farm Resale Volume Large

Comparisons of present rates of increase with those during the last war, changes in values from the 1935-39 base, the large volume of transfers and resales, increases in the average size of mortgages and in the average debt per acre on farms being sold, and heavy debts being placed on many farms as the result of sale, are among the types of evidence most indicative of the need for serious concern over current farm land market developments.

In contrast, the most frequently encountered reasons cited for not becoming particularly disturbed include: (1) the contention that values in the 1912-14 period may be considered as "normal" and that current values are but 14 percent above that average; (2) that wartime increases in land income, even though temporary, fully justify the value increases that have

occurred to date; (3) that a large proportion of the current sales are entirely for cash; (4) down payments in credit financed sales are substantial; (5) the total farm mortgage debt is declining. Hence, it is argued, there is little danger of future credit difficulties and little need for becoming concerned over consequences even though values reach levels not likely to be maintained.

Values Higher Than Last War

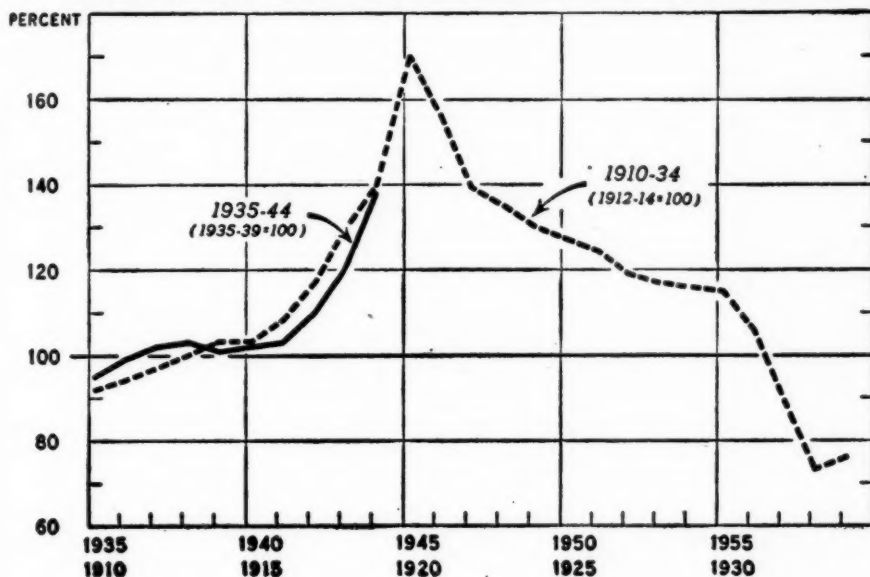
The argument that values are not inflated merely because they are still only 14 percent above the pre-World War I average is vulnerable for several reasons. Based upon a reasonable relation to land income during that period, lands were rather definitely overvalued in many of the more important agricultural areas. Sales prices contained a distinct speculative element based upon the expectation of continuing value increases. There is no assurance that values prevailing a third of a century ago can be considered sound for 1944 and the years

ahead for any given State or for the United States. Furthermore, even though the 1912-14 average is considered a valid bench mark, values are now materially above those levels in a significant number of States. In three-fifths of the States, values are above their 1917 levels; above those of 1918 in two-fifths; and above 1919 in one-fifth. In four States values are now above their 1920 peaks. Either the unreliability of the 1912-14 base as bench mark or the fact that in most States values are already far above that level would appear to provide sufficient grounds for rejecting conclusions based on comparisons of the present national average with that of the 1912-14 period.

Land Increases Above Income

Even though wartime farm land-income increases are considered temporary, such increases justify limited increases in farm land values. But the value advances to date have already been greater than those warranted by higher war period farm com-

**FARM REAL ESTATE: COMPARISON OF INDICES OF AVERAGE VALUE
*PER ACRE, 1910-34 (1912-14=100) AND 1935-44 (1935-39=100)**



modity prices, and this explanation alone can no longer be used to justify continuing land value increases. A doubling of net land income for a 5-year period, for example, would justify an increase in land values above its normal level of just over 20 percent, using a 5 percent discount rate. A land value level temporarily higher by this amount, however, is justified only at the beginning of a temporary high price period, with values warranted by earnings rapidly returning to the normal level as the end of such a period is approached. If farm commodity prices are expected to fall sharply within a relatively short period following the war, land values should now be declining rather than advancing. It was just this divergence, resulting from the overcapitalization of temporary wartime prices, that was back of the 1919-20 land boom and the subsequent collapse.

Large Cash Payments a Help

The substantial down payments being made and the large proportion of sales for cash reduce the amount of credit which ordinarily would be required to finance the present volume of farm sales. Where all or most of the purchase price is paid in cash, even at prices considerably above those warranted by future earnings, the danger of future difficulties is materially less than if excessive debt is assumed. But even purchases entirely for cash at prices in excess of those warranted by earnings is money expended that probably could have been used to better advantage in alternative investments. Also, despite the amount of cash used in buying some farms, heavy debts are being built up upon a significant number of other farms as the result of sale.

The average mortgage-debt per acre in sales financed by credit has increased about 25 percent during the last 2 years. About one-third of the credit financed sales currently being made involve mortgages for 75 percent or

more of the sales price, and in almost four-fifths such sales mortgages equal or exceed 50 percent of the sales price. The number of farms becoming heavily indebted is more indicative of the real danger of future debt difficulties than are changes in the over-all total outstanding mortgage debt, ratios of over-all total debt to total value of all farm real estate, or the proportion of farms being sold for cash.

Future Levels Paramount

Expectations with respect to future farm commodity price and net farm land income levels overshadow all other considerations in arriving at an evaluation of the seriousness of current developments and their probable consequences. Because of the multiplicity of factors affecting future farm commodity prices and returns to land, predictions cannot, of course, be made with any degree of assurance. This becomes apparent by reviewing a partial list of the things likely to have an important influence on future farm price and land value levels. Such a list of items, many of which are interdependent, would include: (1) the general level of prices; (2) monetary, tax, credit, and domestic and international trade policies and problems; (3) general employment conditions; and (4) various Government policies directly affecting agriculture, such as those having to do with crop control, conservation and flood control, marketing surplus crops, nutrition programs, settlement and land development projects, credit and price support programs, and others.

In addition, consideration would also need to be given production costs, conditions affecting the share of farm income that farm land may claim, and attitudes toward land investments and acceptable rates of return. Despite this rather imposing yet incomplete array, buyers and sellers and borrowers and lenders are, in effect, daily "predicting" future farm prices and land values through actual sales, appraisals and loans.

Although probably few would willingly admit making such forecasts, judging from prices now actually being paid for farms, the bulk of buyers purchasing for operation or for investment must expect farm commodity prices and land returns over the longer future run to be definitely higher than those prevailing in the 1935-39 and 1910-14 periods. Even if higher wartime incomes for another two or three years offset a part of the purchase price, the remaining investment in most areas would still be above the land value levels likely to be supported by net returns realized in either of the pre-war periods. Already, current high farm commodity prices and high farm incomes are being overemphasized, and the precarious practice of overcapitalizing temporarily high farm commodity prices characteristic of the 1919-20 land boom is being repeated.

Recent Trends Only the Beginning

Furthermore, developments during the past 3 years may only be the beginning. In view of the powerful stimulating forces now operating, which stem from conditions of high farm income and the growing volume of funds available for farm land purchase, further value increases before the end of the present emergency may overshadow those that have occurred up to now. If farm land values are but 50 percent above the 1935-39 average at the end of the present period of wartime prices, future land income levels would need to approximate those of the 1925-29 period in order for such values to be supported. In case values at that time are 75 percent above pre-war, per acre returns to land about midway between the averages of the 1916-20 and 1925-29 periods would be required to support the value levels reached.

But even if a general level of prices not greatly under that now prevailing was to be maintained in the longer post-war era, would land returns in the future be as high as during the 1925-29 period? A number of considerations point toward the possibil-

ity of lower farm commodity prices in relation to other prices and a lower share of farm income going to land. The likelihood of an agricultural surplus problem at some time after the war cannot be dismissed, despite foreign trade policy dealing with agricultural products or broad nutrition programs that may be undertaken. With trade restrictions relaxed and more agricultural products imported, the necessary shifts would tend to reduce farm land returns and land values. Shifts of about the same order and having similar land value impacts would also be required if trade barriers were maintained. Furthermore, technological improvements that increase production, possibilities for substituting nonagricultural for agricultural commodities, opportunities for developing new land areas through irrigation, drainage, and clearing, all operate in the direction of increasing the supply of land and of agricultural products while reducing per acre land returns.

Except for the possibility of substantial reductions either in the general purchasing power of money or in prevailing capitalization rates in the years following the war, farm land values would already appear to be at inflated levels in a number of areas. Unless effective action is taken to curb further increases, values in most areas may become as seriously inflated by the end of the present emergency as they were in 1920, with potential consequences of about the general magnitude.

M. M. REGAN

Bureau of Agricultural Economics

Index Numbers of Prices Received by Farmers 1910-43. Processed. 36 pp. Bureau of Agricultural Economics. Washington. February 1944.

Because of shifts in relative price importance of farm commodities since 1934, three main changes appear in revised index: (1) new commodities added because of increased importance, others dropped because less important; (2) weights used moved from 1924-29 average volume of sales to 1935-39 average volume; (3) commodities regrouped to make subindexes more useful.

Farmers' Stake in Military Equipment

WHEN WAR is over the value of our military equipment and supplies will range from about 50 to 60 billion dollars according to present estimates. How much is this? It is roughly equal to our 1935 national income of about 56 billion dollars. It is approximately three times the 1939 value of all American railroads and equipment.

What is this equipment? From 20 to 25 billion dollars of it will probably be the value of the plants and machine tools owned by the Federal Government. The remaining 25 to 35 billion dollars will be represented by equipment and supplies in the United States and foreign countries and will include about everything human beings use, such as: shoelaces and bulldozers, blankets and trucks, food and hospital equipment, wire and jeeps, lumber and hoists, beds and tools, dishes and motors. Already some of it is being released by the military.

Land Now Being Returned

There will also be land. To train 11,000,000 men the Army and Navy have acquired 20,000,000 acres of land for bombing ranges, camps, airfields, proving grounds, and for industrial plants. About 6,600,000 acres were acquired from private individuals; the other 13,400,000 acres came from various Federal agencies. Some of this land is already being returned to private individuals and more will probably be available for sale when the peace is won.

Because the peacetime size of our Army and Navy has not been determined it is not possible to state exactly how much of this land and equipment will be retained for military use. But it is expected that most of it will be disposed of after the war.

American farmers, as all citizens, have paid—and will pay—for this equipment and land with bonds and

taxes. They have a real stake in shaping the answers to how and when the equipment and land should be distributed to civilians because much of it could be used on farms and in rural areas.

Farm equipment has been wearing out rapidly with critical material available only for partial replacement. As such suitable military materials are declared surplus the farmers will have real need for them. Tractors, trucks, wire for fences and baling, lumber for repairs and new buildings, tools, batteries, electrical supplies, rope—to name only a few items—would at once be in great demand.

Equipment Suitable for Farms

Farmers could use better fire protection. The Army and Navy will have mobile fire fighting equipment admirably adapted to use in rural communities. Farmers could use more rural hospitals. The military services may soon have surplus medical equipment suitable for rural hospitals if plans are ready. After the war there will be huge supplies of such medical equipment which could be made available to equip many rural hospitals.

Some of the Federal agencies such as the Public Roads Administration, Forest Service, Soil Conservation Service, and Rural Electrification Administration have an interest in the war material. All of these agencies will be able to use trucks, bulldozers, wire and other equipment in carrying out their peacetime programs. Many of them already know how much and what kind will be needed.

County and township organizations could also use much of the equipment. It is these levels of government which could use trucks, bulldozers, rollers, and similar road equipment. Towns and counties might also acquire dredges, heavy tractors, derricks, big trucks, steam shovels, ditchers, pile drivers, and well-drilling equipment

which could be used to dig ditches, clear land, drill wells, build bridges, haul buildings, and do many other tasks for the farmer which are now expensive and time-consuming jobs.

Disposing of military equipment and land presents many problems. Everyone is agreed that it should be done as fairly and efficiently as possible. But the words "fairly" and "efficiently" pose some weighty questions and the answers are not easy.

Would it be "efficient" to sell blankets below a fair market price if it demoralized the cotton textile industry and thus adversely affected cotton farmers? Will it be wise policy to sell trucks and jeeps to farmers at low cost? If it is, then huge stores of canned foods, textiles, and other agricultural commodities will be sold at low cost and beat down the price of products farmers will then be selling.

Full Employment a Factor

Probably our number one job after the war will be to provide employment to those who want to work. The sale of any military equipment must take into account programs to insure the maximum number of jobs. There will be about 8,000,000 men demobilized from the armed forces and some 15,000,000 workers in war industry who will be seeking peacetime jobs. This will be a very sizeable problem that in part will be affected by our decision of when and how we dispose of military trucks, tractors, and jeeps. Shall we sell them at low price to anyone who wants them and thereby demoralize the automobile industry which will in turn have immediate effect on the well-being of the farmer? Automobile workers buy a sizeable share of the farmer's products.

Should the equipment and land be sold through auctions to speculators who may see the possibilities of making big profits on the materials Americans paid for with war bonds and taxes? These are only a few of the problems Americans must face when considering how and when to dispose of military equipment.

What are some of the essentials of a disposal program to serve the best interests of the farmer? There are several. Might the farmer, for instance, have an interest in seeing that as materials are declared surplus they are sold in quantities small enough for him to purchase directly from the disposing agency? Farmers will not care to buy several dozen blankets. But they probably will be interested in buying them in small lots at a fair price. In the matter of disposing of the military lands not needed after the war will not the farmer want to see it disposed of in family-sized, economic farms? He may want to be able to buy a single farm from the Federal Government. This would mean that the land should not be disposed of in large blocks.

These are difficult problems we can not put off. They have to be resolved now—at least in broad outline. Many steps for their solution are being taken now. The Congress is considering many bills which provide for various ways of disposing of military equipment and land. The Surplus Property Administration has been established, as recommended in the recent Baruch-Hancock report, and has already disposed of some equipment. But needs of the farmer and rural areas have not been fully decided. Just how military equipment and land can serve the best interest of the farmer and his community deserves the careful consideration of every one interested in the problems of America.

GEORGE E. FARRELL

Bureau of Agricultural Economics

Maximum Prices Relating to Agricultural Commodities or Primary Products Thereof. Margaret F. Cannon. Processed. 17 pp. Bureau of Agricultural Economics. Washington. February 1944.

Covers current pertinent regulations issued by Office of Price Administration on or before February 14, 1944. Includes all agricultural commodities in their raw, unprocessed state, for which maximum prices have been established; and products of other agricultural commodities at a level as close to the farm as is subject to price control. Shows number and effective date of regulations.

TPWP and Farm Woodlots

LAST August the Timber Production War Project got under way as a cooperative project—including several Federal, State, local and private farm organizations—to stimulate the production of sawlogs, pulp and other forest products sorely needed for war purposes. Under the direction of the War Production Board and the United States Forest Service, the project operates in States east of the Great Plains and also in Colorado.

Half-Billion Feet Extra Output

Latest production figures from all regions of the project area show the extra production in measurable cases alone is around 574,404,000 board feet of critical wood products, such as sawlogs, pulpwood, crossties, fuelwood, cooperage, chemical wood, mine props and piling. This production during the initial 5 months of the project has resulted from individual or separate operations in which TPWP agents actually and directly have aided farmers, timber owners, sawmill operators or others concerned.

The immediate TPWP job of stepping up production of forest products output, of course, breaks down into the business of overcoming production bottlenecks. These jobs are in the main overcoming labor shortages; locating stumpage for mills needing it; finding markets for farmers and others who have timber for sale; obtaining trucks, tires, gasoline and other woods equipment for operators; and handling problems of utilization, transportation, finance and timber cutting practices. With the nation's wood stockpile practically exhausted, and the best estimates of 1944 lumber production running 4,000,000,000 board feet behind minimum needs, this work is highly important to the war effort. But equally interesting in the long view are its implications for the future, particularly the future

of the 140,000,000 acres of farm woodlots in the U. S. A.

No records are available as to exactly how much of the reported TPWP production to date has come specifically from farm woodlots, but unofficial estimates are that 50 percent would be a reasonable figure. Even though some farm woodlots are being clear-cut an increasing number are being cut under sound forestry plans prepared by TPWP or other forestry experts, which means, of course, that despite the great need for wood for war purposes many farm woodlots throughout the country will be left in productive condition after the war. What is more, in a growing number of cases the increasing urge that the woodlots be so left is now coming from farmers and small woodlot owners themselves. As a TPWP field man put it recently, "Farmers are more log minded today than they ever were."

Selective Cutting Increasing

Log-minded farmers have been increasingly asking that TPWP men—particularly farm forestry representatives who operate under the Norris-Doxey Act and are cooperating in the TPWP set-up—mark their timber before they sell it for cutting. They have learned, many of them, that other farmers in their own locality often get as much for the marked trees alone, with a good stand of growing trees left after cutting, as they would if they sold the trees on "the back forty" for a lump sum. Proof of this kind of interest lies in the fact that reports from nearly all TPWP regions deplore the lack of enough trained foresters to keep up with the requests from farmers and others for marking service.

As might be expected, it is in regions where the timber is scarce that this demand for marking and sales on

a selective cutting basis is most frequent. In these regions, the mill owner is faced with greater difficulty in getting wood and so is ready to take the timber on any reasonable basis. In the same region, farmers owning timber have before them the example of idle cut-over woodlots to a greater extent than elsewhere and are therefore more aware and averse to seeing all their trees taken. In fact, TPWP foresters have used the advantages of selective cutting—of eating your cake and having it, too—to persuade many owners to let their timber be cut; owners who otherwise would not permit the axe in their woods at all.

On the other hand, in some regions where timber is comparatively more plentiful, mill owners averse to change from the more profitable custom—for them—of buyer take all for a lump sum have followed the practice of buying first the timber of farmers and others who would sell on such a basis. Prices of timber stumpage are high, and the demand heavy, so many owners are induced to go along with this practice. Cases are reported where farmers and others, anxious to make immediate sales, have sold their timber even after the trees have been marked under a sound forestry plan by the Government foresters.

Woodlot Crops Continuous

But unfortunate as such cases are, from the conservationist viewpoint, on the whole it may well be that the present demand for timber, and the emphasis on the importance of wood in war which has been publicized throughout the TPWP area by every publicity device, from traveling caravans to newspaper stories, is laying the basis for a new understanding and interest on the part of the farmer of his woodlot as a source of continuous crops. Certainly, in the years ahead, the farmer who sold all his timber for a lump sum is going to look ruefully enough at the woodlot of his neighbor down the road who sold only the mature trees from his lot and now,

some years hence, has a new crop to sell. And even more ruefully he is going to remember that in the first instance his neighbor, during World War II, got as much or more, perhaps, for part of his trees as he did for his entire farm woodlot.

ALAN MACDONALD
U. S. Forest Service

The Farm Working Force of 1943.

Louis J. Ducoff and Margaret Jarman Hagood. Processed. 15 pp. Bureau of Agricultural Economics. Washington. March 1944.

Nation-wide sample enumeration made early in 1944 shows approximately 14.5 million different persons worked about 20 to 25 billion hours to turn out 1943 record production of food and fiber. Farm residents made up 78 percent of this working force but at some time during year a total of 2.7 million nonfarm residents worked on farms. Youths 14-17 years of age doing some farm work during year numbered 1.8 million. Of these, 500,000 were non-farm youth, largely recruited through Victory Farm Volunteer program.

Production and Distribution of Specified Feed Ingredients and of Commercial Mixed Feeds, 1941-43. R. D. Jennings and Worley S. Earp. Bureau of Agricultural Economics and Agricultural Adjustment Agency. Processed. 66 pp. Washington. February 1944.

Reports on tankage and meat scraps, fish meal, corn gluten feed and meal, brewers' and distillers' dried grains, alfalfa meal, and commercial mixed feed. Data shown by groups of States rather than by States individually; also by AAA regions.

Production of Manufactured Dairy Products 1942. Processed. 34 pp. Bureau of Agricultural Economics. Washington. February 1944.

U. S. output of dairy products manufactured reached all-time high in 1942. Equivalent of 60,353,823,000 pounds of whole milk used—1 percent more than previous record in 1941. Butter accounted for major portion of whole milk used but fell to record low output of 58.3 percent. Cheese, evaporated and condensed milk, and ice cream absorb an increasing proportion of the whole milk available for manufacturing. Milk for manufacturing averaged 448.2 pounds per capita in 1942.

These bulletins are available from: Bureau of Agricultural Economics, Washington 25, D. C.

Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39 =100) ¹	Income of industrial workers (1935-39 =100) ²	1910-14=100				Index of prices received by farmers (August 1909-July 1914=100)			
			Wholesale prices of all commodities ³	Prices paid by farmers		Farm wage rates	Livestock and products			
				Commodities	Commodities, interest and taxes		Dairy products	Poultry and eggs	Meat animals	All livestock
1934.....	75	76	109	122	129	95	101	89	70	84
1935.....	87	86	117	125	130	103	114	116	116	115
1936.....	103	100	118	124	128	111	125	114	118	120
1937.....	113	117	126	131	134	126	130	110	132	127
1938.....	89	91	115	123	127	125	114	108	115	113
1939.....	109	105	113	121	125	123	110	95	112	108
1940.....	125	119	115	122	126	126	119	96	111	112
1941.....	162	169	127	131	133	154	139	121	146	140
1942.....	199	238	144	152	151	201	162	151	188	173
1943.....	239	305	151	167	164	264	193	190	209	200
1943—March.....	235	295	151	163	160	.....	190	172	220	201
April.....	237	300	151	165	162	239	190	174	220	202
May.....	238	302	152	167	163	.....	189	175	216	200
June.....	236	304	152	168	164	.....	187	179	213	199
July.....	240	306	151	169	165	274	189	183	209	198
August.....	242	312	151	169	165	.....	192	192	208	200
September.....	245	315	151	169	165	.....	195	201	208	203
October.....	247	317	150	170	166	280	198	212	204	204
November.....	247	318	150	171	167	.....	202	219	193	201
December.....	241	316	151	173	169	.....	203	212	194	200
1944—January.....	242	316	151	174	169	275	201	177	194	193
February.....	243	.....	151	175	170	.....	201	168	199	194
March.....	.....	.....	.....	176	171	.....	199	162	203	194

Year and month	Index of prices received by farmers (August 1909-July 1914=100)								Parity ratio ¹	
	Crops							All crops and live-stock		
	Food grains	Feed grains and hay	Tobacco	Cotton	Oil bearing crops	Fruit	Truck crops			All crops
1934.....	91	95	159	97	95	88	95	98	90	70
1935.....	97	107	174	94	120	82	119	102	109	84
1936.....	108	102	165	95	112	92	104	107	114	89
1937.....	120	125	204	90	120	104	110	115	122	91
1938.....	75	71	176	67	88	70	88	80	97	76
1939.....	72	69	155	70	90	68	91	80	95	76
1940.....	84	82	136	77	96	73	111	88	100	79
1941.....	97	89	159	107	130	85	129	106	124	93
1942.....	120	111	252	149	172	114	163	142	159	105
1943.....	148	147	325	160	190	179	245	183	192	118
1943—March.....	143	135	317	161	183	142	326	182	192	120
April.....	143	141	316	162	185	162	364	192	197	122
May.....	144	144	319	162	187	170	276	187	194	119
June.....	145	148	320	161	187	196	261	190	195	119
July.....	148	151	321	158	183	216	220	188	193	117
August.....	147	152	326	160	196	202	186	183	192	116
September.....	150	156	315	163	199	205	180	182	193	117
October.....	157	158	335	164	201	195	187	183	194	117
November.....	160	158	347	156	202	196	228	187	194	116
December.....	166	165	349	160	202	208	223	192	196	116
1944—January.....	170	168	350	162	203	204	267	199	196	116
February.....	170	169	348	161	205	206	247	196	195	115
March.....	169	171	351	161	207	215	242	198	196	115

¹ Federal Reserve Board, adjusted for seasonal variation, revised November 1943.

² Total Income, adjusted for seasonal variation, revised March 1943.

³ Bureau of Labor Statistics. ⁴ Revised.

⁵ Ratio of prices received to prices paid, interest and taxes.

NOTE.—The index numbers of industrial production and of industrial workers' income shown above are not comparable in several respects. The production index includes only mining and manufacturing; the income index also includes transportation. The production index is intended to measure volume, whereas the income index is affected by wage rates as well as by time worked. There is usually a time lag between changes in volume of production and workers' income, since output can be increased or decreased to some extent without much change in the number of workers.